S P E C I F I C A T I O N

TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN that Lee Melvin Hinman of the United States, residing in the state of Florida, has invented new and useful improvements in a

System and Method for a Made to Specification e-commerce Quoting and Orders Processing System on a Stand Alone or Integrated Portal

of which the following is a specification:

System and Method for a Made to Specification e-commerce Quoting and Orders Processing System on a Stand Alone or Integrated Portal

Technical Field of the Invention

The present invention concerns sales configuration information management of e-commerce processing and storage of specifications in general with or without options. More specifically, the present invention concerns the sales configuration management implementation to allow dynamically generated questions without the questions being a unique table for each product family that are necessary for quoting the selling price.

The present invention concerns the portal operation between prospect desiring to get price quotes and the vendor e-commerce web site, with the ability to place the order with the desired vendor.

The present invention concerns with integrating real time graphic design within e-commerce.

The present invention concerns unique searching ability of the product specifications to find the applicable product family on the portal.

Background and Related Art

In the following, the term "e-commerce" should be broadly interpreted and may include content such as Web pages, text files, multimedia files, object features, link structure, etc.

There are a number of terms requiring definition that are at the core of the existing methodologies. XSD is defined as a library that provides an API for manipulating the components of an XML Schema. This is as described by the W3C XML Schema specifications, as well as an API for manipulating the DOM-accessible representation of XML Schema as a series of XML documents, and for keeping these representations in agreement as schemas are modified.

The Extensible Stylesheet Language Family (XSL) **XSL** is a family of recommendations for defining XML document transformation and presentation.

The Real time Scalable Vector Graphic (SVG) is the capability to dynamically add graphic components into the database while linking the graphics to specific costing related items.

E-COMMERCE OF PARTS MADE TO SPECIFICATION OR STOCKED IN INVENTORY FOR E-COMMERCE

On the Internet, the World Wide Web (referred to as "the Web") e-commerce sites exist for inventory and made to specification. Most sites today that sell to options have a form where the prospect has to describe what it is that they want by answering the questions in the spaces provided. This general form for a broad based product line leads to many iterations back and forth before the specification can be determined as to what will be the final quoted price.

PROBLEMS RAISED BY PRESENT E-COMMERCE SOLUTIONS

A programmer can write hard code to ask the option questions for each product family in the database but when new product families are added or prices change only the programmer can make the changes.

When parts are stocked in inventory there is no easy retrieval of the specification as to how the product was made.

KNOWN TECHNIQUES FOR PRODUCT SPECIFICATIONS IN E-COMMERCE

Some previous e-commerce techniques exist such as the Universal Description, Discovery and Integration (UDDI). However, it only publishes the Web Services Default Language (WSDL) for a company for there product line and does not go down to each product family specification.

Some portals have arrangements with e-commerce web site where they display prices of inventory items but do not address products that are made to specification.

There are numerous patents already granted for e-commerce and electronic shopping carts. For example, Kenny in Patent #6,381,583, teaches how to make an interactive shopping mall in a virtual representation. This does not however, handle the made to specification problems as presented. In patent #6,167,383, Henson teaches how sell computer system with various user selections using an online shopping cart system. However, it does not handle the made to specification problems. This would require knowing how the product was made or special shipping instructions and host of other product specific information.

Therefore, it is desirable to provide an interactive capability to dynamically determine a quoted price without the requirement of multiple query iterations between the buyer and seller for made to specification products.

It is also desirable to have such capability without the need of a computer programmer and to be able to modify and add new products easily.

Summary of the Invention

The present invention is directed to a process that allows for traversing the industry standard XSD tree to display to the user option questions for input data to the algorithm by:

(i) each element to be a question supplied to the user,
(ii) each element will have allowed input rules,
(iii) each element will have optional administrator supplied error messages when the rules fail,
(iv) each element can be checked for other option selection capability.

The present invention may function on the internet, intranet, or local client server mode.

The present invention has several advantages over the prior art of traversing files to determine applicable programmed questions. One advantage is the relationships that are defined in the XSD file. This includes items such as the minimum and maximum values, inclusion or exclusion, exact or pattern matching.

Another advantage of the present invention is the XSD file being used to determine format of input questions as one of the following: decimal, integer, float, string and drop down values.

Yet another advantage of the present invention is the information for the selection options is internally stored as an XML document in a single database table.

Still another advantage of the present invention is the user-defined computation of interim steps to determine the final selling price, shipping cost, and sales tax.

Still another advantage is the integrated real time graphic design capability to build and integrate graphic components directly into the database.

It is therefore an object of the present invention to provide a method and apparatus that uses XSD file contents to dynamically determine presentation data to the user.

It is another object of the invention to provide a method and apparatus to allow administration of the XSD and XSL files containing the questions, edits and associated math calculations.

It is yet another object of the present invention to provide a method and apparatus to provide a search capability of the entire

database containing both static inventory components and made to specification components.

It is yet another object of the present invention to provide a method and apparatus to provide an integrated real time graphic design capability to build and integrate graphic components directly into the database.

The foregoing and other objects, features and advantages of the invention will be apparent from the following more particular description of a preferred embodiment of the invention. This is illustrated in the accompanying drawings wherein like reference numbers represent like parts of the invention.

Brief Description of the Drawings

FIG. 1 is a high-level block diagram of the e-commerce logic flow chart in which at least some aspects of the present invention may be used.

FIG. 2 is a high-level block diagram of the e-commerce Portal logic flow chart in which at least some aspects of the present invention may be used.

FIG. 3 is an example of XSD file format that illustrates some operations that may be performed by the present invention.

FIG. 4 is a continuation of FIG. 3 example of XSD file format that illustrates some operations that may be performed by the present invention.

FIG. 5 is a screen example of stand alone e-commerce shopping cart that illustrates some operations that may be performed by the present invention.

FIG. 6 is a screen example of stand alone e-commerce shopping cart with the More Information that illustrates some operations that may be performed by the present invention.

FIG. 7 is a screen example of stand alone e-commerce shopping cart with the Real Time Graphic design More Information that illustrates some operations that may be performed by the present invention.

FIG. 8 is an example of XSL file format that illustrates some operations that may be performed by the present invention.

FIG. 9 is an example of Portal that illustrates some operations that may be performed by the present invention.

FIG. 10 is an example of Portal where the Vendor is selected that illustrates some operations that may be performed by the present invention.

FIG. 11 is an example of XSD maintenance that illustrates some operations that may be performed by the present invention.

Detailed Description

Referring now to **FIG. 1**, a prospect looking for product prices begins at **100** with a web browser. The prospect selects the product category from the menu on the left as shown in **FIG. 5**. The system logic flow at **101** checks to see if a XSD file is present for the product selected and if NO goes to step **115**. If the answer to the query in step 101 is yes then proceed to step **102**. The system confirms the XSD is present on the server and if so presents to the browser screen per format as defined in step **103** also shown in **FIG. 11 field 1101**. The prospect answers the questions in step **104**. At any type during the process illustrated in step **104** the prospect has the ability to click on the More Info button step **111** and as shown in **FIG. 5** to see more words & diagrams about the questions. A unique aspect of this invention is the costing of the made to specs product along with the Real Time Scalable Vector Graphic (SVG) design of images in step **110**. If it is not SVG then they proceed to step **105**. If it is SVG then in step **109** the prospect designs the new graphic and then in step **108** additional processing is done. Subsequently, a Portal History is recorded in step **112**.

Once the prospect has completed all of the questions in step **104** they can select Update the Cart in step **105**. The system checks for any errors in step **106** and if any errors are found, displays an error message and sends the logic flow back to step **102**. Normal processing without any errors allows the user to select step **107** if no more products are to be placed on this order.

The system supports Portal input of Request For Quote at **113** from web services. The processing here is input of a XML file that has already passed edits therefore pricing is done and checking to see if the selected options are available from this vendor. The results are sent back to the portal in **114**.

The logic at **108** then writes the option answers and the Name in **FIG. 11 1102** to the single table for later retrieval. If the request come from a portal in **113** then in **112** history of the transaction is written.

The logic after step **108** is to process the prices into an order/quote as in step **115**. Back in steps **101/102** the XSD can be present and no options questions are allowed in step **102** for a made to inventory product therefore the logic goes directly to step **115**. A product may not have the XSD yet defined so the logic flow from step **101** goes directly to step **115**.

Referring now to **FIG. 2** in which is a prospect looking for prices from different vendors on a product is the starting point at step

200 with a web browser. Logic within step **200** checks to see if this prospect has requested this product within the last X days and only proceeds if true. This is to prevent abuse to portal to get an unreasonable number of quotes. The prospect selects the vendors (up to an allowed number) that they want the RFQ sent to in step **201** also as shown in **FIG. 9** (note the step **201** selection could be before step **206**). The system logic flow at step **202** checks to see if a XSD file is present for the product selected and if NO goes to step **206**. If yes then proceed to step **203**. The system confirms the XSD is present on the server and if so presents to the browser screen per format as defined in step **204**. The prospect answers the questions in step **205**. The system logic in step **206** sends the RFQ to ones selected in step **201** with web services which is step **113** in **FIG. 1**. Upon receipt back from the Web Services in step **207** the prices is shown from the vendors. The prospect selects the vendor they want to award the order to in step **208**. The system portal updates its history in step **210**. The user continues on to the vendor site in step **209** to complete the credit card processing if applicable.

The foregoing disclosure and the content of the drawings are merely illustrative of the principals of this invention and are not to be interpreted in a limiting sense.